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VETCH FOR NORTH CAROLINA

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OAT AND VETCH HAY

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VETCH FOR NORTH CAROLINA

By C. B. Williams and R. Y. Winters

etch has many good qualities to recommend it as a winter cover
in our State. It should certainly be grown more generally on the
rer sandy soils of the Coastal Plain section and will be found a very
ul crop in the Piedmont section. This crop belongs to the legume
ily, and like other winter legumes is able to get a portion of its
ogen from the air, when properly inoculated. Compared with crim-
clover, red clover and bur clover, vetch is less exacting in its soil
irements. It will grow on poorer soil and is not so dependent upon
as the other winter legumes.

VARIETIES

he variety most commonly grown in this section is known as hairy
h. The leaves and young stems are hairy and somewhat silvery in
r. The flowers are blue to violet in color and are borne in a brush-
shape with 10 to 30 flowers in a cluster. The seed are round and
ost black. This variety has given the largest yield of hay or material
turning under. Previous to 1915 a large portion of the seed of this
ety were imported from Europe but in recent years no seed could
ecured and the price of American-grown seed were very high, selling
igh as 18 to 20 cents per pound. It would not, however, be a diffi-
matter to grow one's own seed and a few growers of the State are
ving this variety for commercial seed.

OREGON VETCH

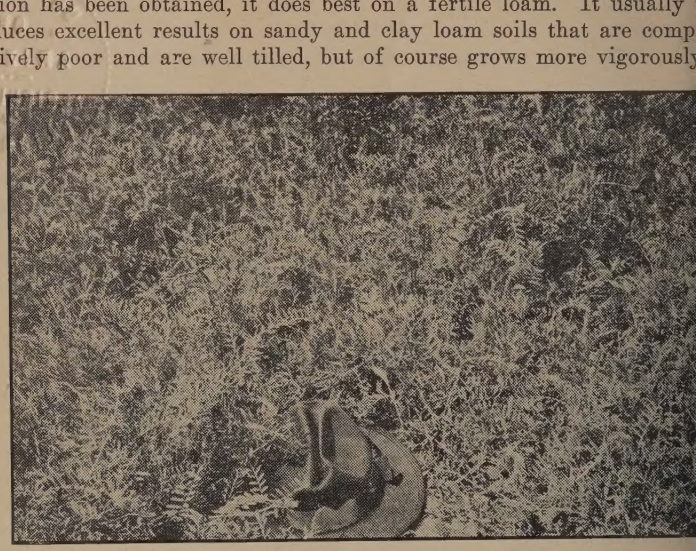
his variety has become known as Oregon Vetch because of the fact
most of our seed come from that State. The plants of this variety
a shorter and coarser stem than the hairy vetch, and the purple
ers are borne in pairs. The leaflets are rounded and distinctly
hed at the end. This variety has not been so popular as the hairy
h on account of its smaller growth, but it is likely to come in favor
ections of the State where the hairy vetch is damaged by disease.

NARROW-LEAVED OR WILD VETCH

he narrow-leaved or wild vetch is cultivated to some extent in States
her South, but in this section it is not so desirable for hay or grazing
he hairy or Oregon Vetch. This variety has smooth, narrow, sharp-
ted leaflets, purple flowers borne in pairs, black pods one and a half
wo inches in length. It is used to advantage on permanent pastures
e it reseeds itself each year and furnishes early pasturage in the
ng.

PREPARING THE SOIL

While hairy vetch grows well on any well-drained soil after inoc
tion has been obtained, it does best on a fertile loam. It usually
duces excellent results on sandy and clay loam soils that are comp
tively poor and are well tilled, but of course grows more vigorously



A GOOD GRAZING CROP

the better grade of soils. It will also do well on clay soils and
drained valley soils. It will make a good growth on much poorer
than the clovers, thus enabling it to be used in the improvement of
where clover would not grow. In plowing and preparing land for ve
a fine compacted seed-bed should be provided as for wheat or
Sometimes a thorough disking will put the land in proper condi
for a good seed-bed. Frequently vetch is sown on stubble or betv
cotton or corn rows, and is covered by means of a harrow or cultiva
This method is quite common and has been found to afford very s
factory results with many.

SEEDING

In North Carolina the seeding should take place in the late summe
early fall. Because of its trailing habit of growth, most satisfactory
sults are secured when it is sown with some erect-growing crop, like
rye or wheat. Without such a support, the vines will fall, rende
them difficult to harvest for hay or seed. Of the grains, oats and
are the most satisfactory. When sown with oats, the seeding per
should be at the rate of 20 to 30 pounds of vetch and about 1 to
bushels of oats. When vetch is sown alone, at least one bushel
acre will be required. The seed germinate poorly when they are
than two years old. The vetch seed may be put in broadcast or wi
drill; in either case they should be covered to a depth of 1 to 2 inc

excellent grade of hay or pasturage may be secured by seeding the ch with oats. The Red Rust-proof, Appler, or some other variety oat, requiring a similar length of time to mature, should be used in ding with vetch to have them reach the haying or maturity stage at same time. Early seedings usually give the best results. Injury killing, due to hot weather in early fall, is usually more than made by the larger growth of the plants that are left. In the Eastern d Southern Piedmont section it should be planted before September for best results, and in the Coastal Plain section vetch should be nted before October 1. The early plantings made at the last cultiva- n of cotton has many advantages since it furnishes earlier pasturage, arger growth, and is ready to turn under or cut earlier in the spring.

INOCULATION

Vetch sown on land for the first time will usually require inoculation best results. This may be provided in the following ways:

1. By the use of soil from a vetch or English pea field or from ditch nk or hedge row on which wild vetch grows annually.
2. By the use of a soil extract of any of the above soils.
3. By the use of artificial cultures of suitable bacteria.

It will usually pay to inoculate a soil devoid of the bacteria suited forming nodules on the roots of this crop.

If artificial inoculation is not provided it will usually be found that ring the second year, on plants grown on the same land, a fairly isfactory inoculation has naturally taken place during the first year's owth for the second crop.

RESEEDING

As the cost of seed is an obstacle to the growth of vetch, this may overcome by handling the crop in such a way that it will reseed elf. When cut for hay at the proper time, enough seed will be de- oped on the stubble to reseed; and when grazed, if the stock is re- oved a few weeks before the end of the growing period, enough seed ll ripen for reseeding. If the crop is harvested for seed, there will vays be enough seed shattered to provide for a future crop. The ound should be turned reasonably early to cover the seed. After the st good rains in the fall the seed will germinate.

ROTATIONS

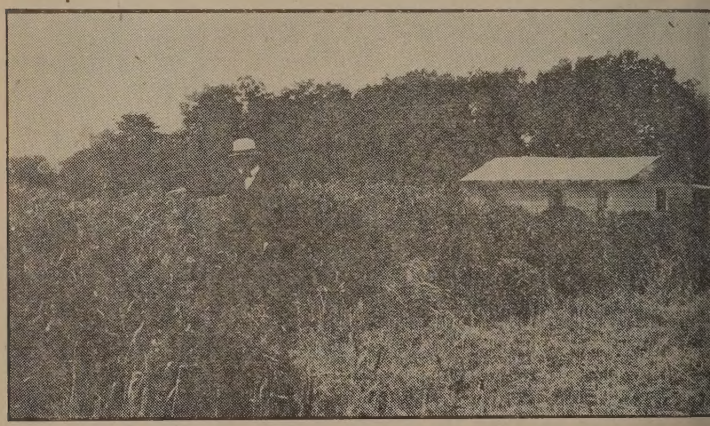
Vetch is one of the few leguminous crops that can be grown during winter for grazing and soil improvement. It fits in well in most y good system of rotation, especially in the eastern Piedmont and astal Plain sections. Corn, sorghum, cowpeas, soybeans, and other ops may follow vetch. After cultivation of these crops has been ished, the vetch will come up and generally make some growth during

the fall, providing early grazing in the spring. Vetch may be gro after cotton by scattering the seed between the cotton rows just bef the last cultivation. When used in a soil improvement system vetch in well with soybeans and cowpeas.

VETCH FOR HAY

Dry vetch hay contains about 17 per cent of protein, a greater amou than is contained in hay from clover, alfalfa, cowpeas or soybeans. contains practically the same amount of digestible nutrients as wh bran. The stems of vetch are small and readily eaten by all anim if properly cured.

Vetch intended for hay should be planted with Appler, Red Ru proof, or some other variety of oats that require the same length of ti



A TWO TON CROP OF VETCH AND WHEAT IN EDGECOMBE COUNTY

to mature. The oats support the vetch so that it can be cut for h more easily. The oats also add to the quantity and quality of hay p duced. A larger yield of hay will always be secured from early pla ings.

Vetch hay should be cut just before the plants are in full bloom. this stage the plants will have the largest quantity of leaves and w produce the best quality of hay. The most satisfactory way to harv vetch hay is to cut after the dew is off in the morning and allow vines to lie in the sun for a few hours until the leaves and stems beg to wilt. Toward evening, before the leaves become dry enough to fa the vines are raked into wind-rows or cocks. The hay should then placed on ventilated stacks. A very satisfactory and cheap stack m be made by placing a pole in the ground at intervals and nailing seve series of cross-pieces on it. The ventilated stacks are very much li

ose used for curing peanuts though very much larger stacks may be ed in the curing of vetch hay.

The yield from vetch and oat hay will depend upon the fertility of e soil and the earliness of planting. It can be said, however, that on ils of poor and medium fertility no other annual winter legume can mpete with it. Yields of one and one-half to two tons per acre are t uncommon.

FOR SOIL IMPROVEMENT

Vetch fits in well as a supplementary soil-improving crop with the wpea and soybean. It grows and enriches the soil during the fall, inter and early spring, while the cowpea and soybean performs its neficial work during the summer. A good crop of vetch will contain irty to thirty-five dollars worth of fertility per acre. Of this, about per cent will be in stems, leaves and flowers, and about 14 per cent the roots, stubble, fallen leaves, etc., or that portion left in the field hen the vetch is removed for hay. The main value of vetch as a soil iprover is due to the large amount of nitrogen which it collects annu-ly from the air and adds to the soil. A good growth will contain as uch nitrogen per acre, most of which it has taken from the atmosphere, is contained in a ton of high-grade cotton-seed meal or 800 pounds of trate of soda. About 75 per cent of the fertilizing value of vetch hay d about 83 per cent of its roots and stubble are due to the nitrogen hich they contain. About 80 per cent of the nitrogen of the plant is ntained in that portion of the plant usually removed for hay.

Hairy vetch, when the whole crop is plowed into the soil, enriches the il very rapidly. The crop not only benefits the soil by adding large iantities of nitrogen when plowed in, but it greatly improves the echanical condition of most soils by supplying a large amount of easily composible organic matter. The crop grows during the winter and revents loss of valuable plant-food constituents that might otherwise leached out of the soil. It makes an excellent cover crop for ordinary lds and orchards; in fact, it is the most satisfactory nitrogen-gathering inter cover crop that orchardists have been able to find. It improves e physical condition of the soil; it conserves the soluble plant food of e soil and prevents erosion. When grown on the poorer soils for soil iprovement or for spring pasturage, vetch should be sown with rye to sure a sure cover crop.

FOR PASTURAGE

Hairy vetch furnishes excellent grazing for horses, cattle and sheep. xperienced swine growers say that hogs will not eat it if other green ops can be had. It makes little or no growth during the coldest part the winter, but starts into growth with the first warm days—early the spring, and will usually be large enough for grazing by the st of March. This may be continued for four weeks or more. If e stock are then removed, a good crop of hay or seed may be secured.

Bermuda grass and hairy vetch, and Japan clover and hairy ve
are good mixtures for pasturage purposes. The vetch grows during
fall, winter and early spring, and practically completes its growth bef
either the Bermuda grass or Japan clover start into full growth in
spring, as the latter two are both late in starting into growth in
spring. If the season was favorable the vetch did not fall too much
could be removed for hay and the Bermuda and Japan clover gra
during the summer and early fall.

For further information, address Division of Agronomy, Agricultu
Extension Service, West Raleigh, N. C.

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Raleigh and West Raleigh

E CARD FOR LARD TYPE HOGS

..... Date..... 19.....

ARK POINTS DEFICIENT	Perfect Score	A AGE ApWt	B AGE ApWt	C AGE ApWt	D AGE ApWt
ND FACE—Broad between the eyes; lished according to breed, moderately breeds except Berkshires	4				
arge, bright and open; free from es or overhanging fat	2				
Not too large or coarse; drooped or according to breed	2				
Short; deep; wide and nicely taper- shoulder	2				
Smooth; full; firm; neat; carrying s back to brisket and point of ers	2				
DERS—Moderately broad; deep; full; tending above line of back; carrying ess down to belly line	6				
HEARTGIRTH—Large; wide; deep; vide between the legs; at least flush ack and belly lines; large heartgirth	12				
ND LOIN—Broad; arching; carrying idth from shoulder to ham; evenly ; smooth	14				
ND RIBS—Full; smooth; deep; long; g even width of ham and shoulder; om wrinkles; ribs well sprung and	9				
AND FLANK—Straight; same width k; full to lines of sides; flank well to lower side-line; girth similar to rth or distance from top of head to tail, in true lard type	4				
ID RUMP—Broad; full; long; wide ep; fleshed well down to hock; but- ll; rump same width as back; nicely g slope from loin to root of tail	10				
ID LEGS—(*a*) LEGS—Medium length; t and strong; nicely tapering; good one; well muscled	4				
SET—Pasterns nearly upright; short; ort; tough; straight; animal well up	5				
icely fleshed at base; tapering; not e light or heavy	1				
Fine; smooth; straight; free from covering the body evenly	3				
According to breed, either cherry black and white	2				
rge for age. Boars two years and ot less than 500 pounds; sows same 0 pounds. Eighteen months: Boars, ws, 350. One year old: Boars, 350; 00. Six months old: Boars and sows, s than 150 pounds. These weights nimum except for Hampshires	8				
AND STYLE—Graceful; easy; good e; testicles well developed and evenly	3				
ON—Healthy and mellow; evenly	2				
TION—Quiet; gentle; easily driven fled	2				
RY OF POINTS—Adaptation of all nts; nice proportion of all the points	3				
Number of points deficient, total and om 100. al score	100				

FIG. 1. A Berkshire Sow in Show Condition.

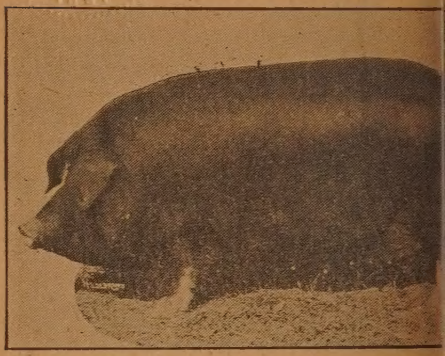


FIG. 2. A Poland-China Sow in Show Condition

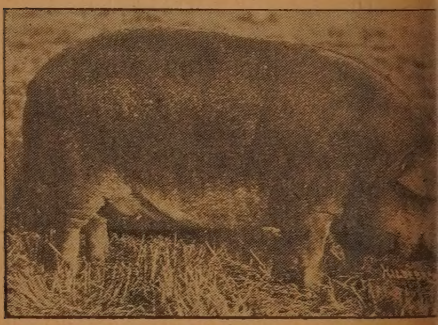


FIG. 3. A Duroc-Jersey Sow in Show Condition.

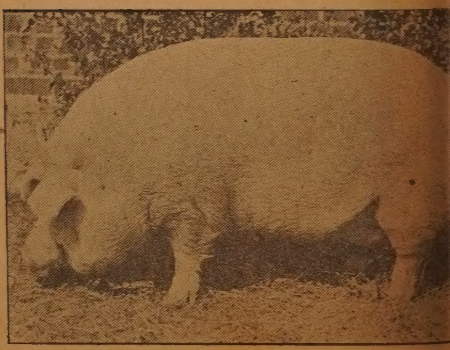


FIG. 4. A Chester White Sow in Show Condition

Placing

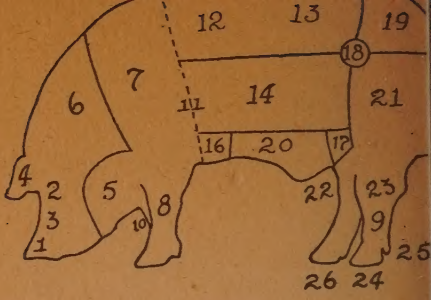
First. Reasons:

Second. Reasons:

Third. Reasons:

Fourth. Reasons:

County..... Class.....



1. Snout
2. Eye
3. Face
4. Ear
5. Jowl
6. Neck
7. Shoulder
8. Foreleg
9. Hindleg
10. Breast
11. Chestline
12. Back
13. Loin
14. Side
15. Tail
16. Fore Flank
17. Hind Flank
18. Hip
19. Rump
20. Belly

(Names of different parts as marked and numbered in

A study of the above outline chart will enable the stud the various parts by name. A *"swirl"* is a spot usually o side of the hog where the hair grows irregular, giving th of a whirlpool in water. The *"Twist"* is that part on the hind leg between the hock and ham. All other parts men score are shown in the chart.

OBJECTIONS

1. HEAD—Too large; coarse; narrow between the eyes; too short, or exceedingly dished. *Exception:* Berk last mentioned point.
2. EYES—Small; deep set; surrounded by wrinkles or ove
3. EARS—Too large; coarse; round; too swinging or fla in size; not under control; erect. *Exception:* Berk last mentioned point.
4. NECK—Narrow; thin; long; not extending down to b
5. JOWL—Rough and deeply wrinkled; too large and loo not carrying fullness back to shoulders.
6. SHOULDERS—Deficient in width or depth; extending back; width beyond line of sides and hams; shields coarse and prominent.
7. CHEST-HEARTGIRTH—Pinched appearance at top tucked in back of forelegs; too narrow between sufficient depth back of shoulders; brisket too na prominent.
8. BACK AND LOIN—Swayed; humped; narrow; creas shoulders; uneven width.
9. SIDES—Shallow; creased; shrunken at shoulder or han ing proper width from top to bottom; ribs too sho sprung.
10. BELLY AND FLANK—Narrow; sagging; flabby; flan much less than heart-girth.
11. HAM AND RUMP—Hams narrow; short; not projecti to hock; too much cut up in crotch or twist; rump row; peaked at root of tail.
12. FEET AND LEGS—Legs extremely long; too short; crooked; not nicely tapering; pasterns long; crooked long; crooked; spread.
13. TAIL—Too long and ropey; extremely light or heavy;
14. COAT—Bristles; swirls; hair coarse; thin or standing distributed over body except belly.
15. COLOR—Duroc-Jersey: Very dark red or shady brow or pale red; black or white spots or flecks. POLAN BERKSHIRE: White and black hair mixed, making pearance. CHESTER WHITE: Blue spots in hide (fr *or black spots disqualify.* HAMPSHIRE: White on extending more than one-fourth length of body; soli
16. SIZE—Undersized; rough; coarse; lacking in feeding
17. ACTION AND STYLE—Dull; sluggish; awkward; easily seen or of unequal size or carriage, only one
18. CONDITION—Hair harsh to touch; unthrifty; scales, unevenly fleshed, lumpy.
19. DISPOSITION—Cross; restless; quarrelsome; wild or easily handled or driven.
20. SYMMETRY OF POINTS—Lack of proportion.

For information about Hogs (bulletins, breeding stock, crops, houses, prevention of diseases, lice and worm contr sult your County Agent or write the Office of Swine E Raleigh, N. C.